

XVI. On *Gracilaria*, a Genus of Tineidæ. By H. T. STANTON, Esq.

[Read January 6th, 1851.]

THE genus *Gracilaria* forms a portion of an exceedingly natural group, the other genera included in the group being *Coriscium* (which differs from *Gracilaria* only in the palpi having a tuft beneath), and *Ornix* (which has the head rough). The whole of this group are readily recognized by their long filiform maxillary palpi, and by the thickness of the middle pair of tibiæ. The perfect insects when at rest have a peculiar mode of sitting, by which they may be at once known; they sit with their long narrow wings closed over the back, with the head raised, the body of the insect forming an angle of at least  $30^{\circ}$  with the surface on which it rests; the antennæ turned backwards, under or over the wings.

The essential characters of the genus *Gracilaria* are, head and face smooth; palpi thin, recurved, the terminal joint pointed; maxillary palpi long, thin and projecting; antennæ as long as the anterior wings, or nearly so, slender, not enlarged at the base; anterior wings long and narrow, with long cilia; posterior wings long and narrow, lanceolate, with long cilia; middle pair of tibiæ much thickened, with hairy scales.

The larvæ of all the species are probably, when young, leaf-miners, some continue always so; those of most of the species, on attaining a certain age, roll up portions of the leaf generally in the form of a cone; of this cone they mostly eat the inner surface, thus discolouring it, and betraying their habitation. Some species change to the pupa in the cone formed by the larva, but I doubt whether this is most frequently the case. The larva of *Auroguttella* leaves the cone, and rolls up a leaf of the plant on which it feeds (*Hypericum perforatum*) in the form of a cigar.

The genus *Gracilaria* may be divided into two sections, by the number of veins arising out of the discoidal cell. In Section A. there are nine veins, in Section B. only eight.

In order to assist young Entomologists easily to be able to name their species, I arrange the genus in the following form; but first I should observe that many of the species have a trigonal mark on the costa, extending nearly to the inner margin.

Note.—The species marked § have not yet been detected in this country.

## Section A.

- a. With a distinct, paler, trigonal mark on the costa.
  - \* The trigonal mark reaches with its apex beyond the fold of the wing.
    - Sp. 1. *Franckella*. The base of the trigonal mark is prolonged along the costa towards the apex of the wing.
    - § Sp. 2. *Oneratella*. The base of the trigonal mark is not prolonged along the costa.
    - \*\* The trigonal mark does not reach beyond the fold of the wing, but its apex is prolonged posteriorly.
    - Sp. 3. *Stigmatella*.
- b. With a more or less distinctly margined, but hardly paler trigonal mark on the costa; the trigonal mark does not reach beyond the fold of the wing.
  - Sp. 4. *Stramincella*. Anterior wings straw colour.
  - Sp. 5. *Hemidactylella*. Anterior wings reddish ochreous; costal triangle paler.
  - Sp. 6. *Falconipennella*. Anterior wings reddish-grey-brown.
  - Sp. 7. *Semifascia*. Basal half of the costal triangle very conspicuously paler than the posterior half.
  - Sp. 8. *Populetorum*. Costal triangle *very indistinct*; a conspicuous black spot on the costa beyond the middle.
  - Sp. 9. *Inconstans*. Anterior wings rufous-ochreous, or rufous; costal triangle not paler than rest of the wing. (Most of the varieties of this species.)
- c. With no trigonal mark on the costa; anterior wings unicolorous, or spotted longitudinally.
  - \* Anterior wings rufous.
    - Sp. 9. *Inconstans*. Hinder femora pale yellowish. (A few varieties of this species.)
    - Sp. 10. *Elongella*. Hinder femora entirely brownish.
    - § Sp. 11. *Rufipennella*. Hinder femora with the base whitish; apex brownish-black.
  - \*\* Anterior wings bone colour, or pale yellowish.
    - Sp. 12. *Tringipennella*. Costal portion of the wing whiter.
    - § Sp. 13. *Limosella*. Costal portion of the wing not whiter.

d. Anterior wings with fasciaform markings.

Sp. 14. *Syringella*. Anterior wings brownish, with paler markings.

§ Sp. 15. *Simploniella*. Anterior wings snow-white, with pale yellow markings.

Section B.

† Anterior wings with no hook in the cilia.

a. Anterior wings with fasciaform markings.

Sp. 16. *Omissella*.

b. Anterior wings with paler inner margin, and faint spots on the costa.

§ Sp. 17. *Scalariella*. Head and palpi snow-white.

Sp. 18. *Phasianipennella*. Head and palpi yellowish-brown.

c. Anterior wings with four distinct spots, two on the costa, two on the inner margin.

\* First costal spot not touching the costa, first dorsal spot extending to the base.

Sp. 19. *Auroguttella*.

\* \* First costal spot touching the costa, first dorsal spot not extending to the base.

Sp. 20. *Quadruplella*. Spots narrow, and inclined obliquely.

§ Sp. 21. *Quadrisingella*. Spots broad, and placed perpendicularly.

d. Anterior wings with numerous silvery spots.

Sp. 22. *Ononidis*.

† † Anterior wings with a hook in the cilia.

a. Anterior wings golden, with four costal and three dorsal silvery spots, and a silvery basal line (as in *Lithocolletis*.)

§ Sp. 23. *Pavoniella*.

b. Anterior wings brownish, with the inner margin and 4—5 costal streaks snow-white.

§ Sp. 24. *Kollariella*.

I now proceed to describe these species in the order enumerated above. Of those species of which I have not been able sufficiently to examine specimens, I have translated the descriptions given by Zeller, in the *Linnæa Entomologica*. *Simploniella*, *Scalariella* and *Pavoniella* I have never seen.

I just say a few words here in defence of what many people will be apt to call unnecessarily wordy descriptions. It is easy

enough of two *known* species, however closely allied, by a very few words sufficiently to distinguish both; but a voluminous description is necessary to distinguish an insect from an allied species that *may not yet be known*; we can by no means foresee what character will be important as distinguishing two allied species, one of which has yet to be discovered; and it is only by a minute circumstantial description of all the parts of a species that we prevent doubts hereafter arising which of two very similar species it was that we intended by our description. Hence the great uselessness of nearly all descriptions of *Micro-Lepidoptera* made by most authors.

### Section A.

Sp. 1. *Franckella*, Hübner. (Pl. XIV. fig. 10.)

*Alis anticis rufis violaceo-nitidis, triangulo costali ad costam producto, dorsoque ad basim, flavis.*

*Franckella*, Hüb. Tin. 379; Zell. Linn. Ent. ii. 314.

*Thunbergella*, Steph. Illust. iv. p. 366; Fabr. 3, 2, 326?

*Hilaripennella*, Tr. ix. 2, S. 196; x. 3, S. 297; Dup. xi. 583, pl. 511, fig. 1.

*Swederella*, Thun. M. N. Ac. Upsal. Part VI. p. 80 \* figs. 1 and 2?

Var. b, ut a, sed *alis anticis saturatioribus, costa obsoletissimè fusco-punctata.*

Not to be confounded with any known species.

Expansion of the wings  $5\frac{1}{2}$ —6 lines.

Head reddish brown, with a violet gloss; face pale yellow; palpi pale yellow, the terminal joint externally brown before the apex (in var. b, this joint is also brown on the upper side); antennæ pale yellow, with brown annulations; thorax pale yellow in the middle, reddish brown on the sides and in front; abdomen grey, beneath dirty white; the four anterior legs have the femora and tibiæ dark reddish brown, tarsi yellowish white; posterior legs, base of the femora whitish, apex dark brown, tibiæ at the base pale brown, towards the apex darker, tarsi dirty yellowish white.

Anterior wings bright rufous-brown, with a violet gloss; a little before the middle the costal triangle commences, it is pale yellow, and reaches beyond the fold of the wing, has no prolonged apex, but its base is prolonged on the costa to near the apex of the wing; a yellow triangular spot extends from the base along the

inner margin, it is broadest at the base, but continually decreases in breadth, terminating a little before the apex of the costal triangle; apical cilia reddish yellow; inner marginal cilia pale grey.

Posterior wings shining grey, with grey cilia.

In var. b, the yellow of the anterior wings is of a deeper colour than usual, and appears to shade off gradually into the red, instead of having sharply defined margins; and along the costa in the middle of the triangle are two *very faint* brownish spots.

Common among oaks in May, June and August. My specimen of var. b was taken on Dartford Heath fence, April 19th, 1848.

The objection to retaining the Fabrician name for this insect lies in the words "*Alæ posticæ auratæ*."

I certainly think this must be Thunberg's *Swederella* (under which name a specimen was sent by Bohemann to Zeller), and if so, the name *Franckella* must fall. I leave the matter in the hands of the next writer on this species.

Sp. 2. *Oneratella*, Zeller. (Pl. XIV. fig. 12.)

*Alis anticis brunneo-rufis, postice flavido-mixtis, triangulo costæ stramineo, plicam superante.*

*Oneratella*, Zel., Linn. Ent. ii. 317.

Not nearly allied to any other species of the genus; in the pale colour of the trigonal mark it resembles *Franckella*, but the form of the mark is quite different, not being prolonged along the costa.

Expansion of the wings 6 lines.

Head reddish brown; face pale straw-yellow; palpi pale yellow, the terminal joint brown before the apex; antennæ pale yellow, with dark brown annulations; thorax reddish brown, with a fine yellow line along the middle; abdomen brownish grey, beneath yellowish; the four anterior legs have the femora and tibiæ reddish-brown, the latter with a white spot on their middle, tarsi shining white at the ends of the joints, with a brown spot; posterior legs dirty, shining, reddish white, tarsi the same, with the ends of the joints darker.

Anterior wings reddish brown, the darkest parts are the margins of the costal triangle (especially that towards the base of the wing), and the inner margin towards the base; the costal triangle reaches beyond the fold of the wing, almost touching the inner margin, its hinder margin is slightly angulated, turning towards the base of the wing; it is pale straw yellow, and there are a few red-brown spots along the costa. At the base of the wing is a

small yellow streak, along the fold of the wing ; the apical portion of the wing is varied with several small yellowish spots along the costa and inner margin ; apical cilia are reddish brown, the inner marginal cilia grey.

Posterior wings grey, shining, with yellowish grey cilia.

Not yet detected in this country, and very rare on the Continent ; it has only occurred near Glogau ; and of its food and habits nothing is known.

Sp. 3. *Stigmatella*, Fabricius. (Pl. XIV. fig. 14.)

Alis anticis rufis, purpureo-nitidulis, triangulo costali exalbido, plicam tangente, apice suo postice producto.

*Stigmatella*, Fabr. Ent. Syst. 3, 2, 304 ; Schr. F. B. 2, 1, 106 ; Steph. Illust. iv. 366 ; Zel. Linn. Ent. ii. 319.

*Upupæpennella*, Hüb. Tin. 203 ; Tr. ix. 2, S. 195 ; x. 3, S. 217 & 279 ; Dup. xi. 602, pl. 311, f. 13.

*Purpurea*, Haw. L. B. 528 ; St. Ill. iv. 366.

*Trigona*, Haw. L. B. 529.

Var. b, alis anticis dilute ochraceis, circa triangulum fusciscentibus.

*Ochracea*, Haw. L. B. 528 ; St. Ill. iv. 366.

Readily distinguished from all its congeners by the posteriorly projecting apex of the costal triangle.

Expansion of the wings 6—6½ lines.

Head and face greyish red ; palpi red brown, the inner side of the second joint and apex of the terminal joint yellowish ; antennæ pale yellowish, with brown annulations ; thorax greyish red ; abdomen grey, beneath whitish ; the four anterior legs have the femora and tibiæ reddish brown, tarsi whitish, the ends of the joints brown ; the posterior legs have the base of the femora yellowish white, the apical half dark brown, tibiæ and tarsi dirty yellowish white, the ends of the joints darker.

Anterior wings reddish brown, darkest along the costa, paler along the inner margin and towards the hinder margin. The costal triangle is whitish, it is situated about the middle of the costa, and has its shortest side towards the base of the wing ; the side opposite is longer, and slightly concave ; the apex of the triangle, which reaches the fold of the wing (rarely crosses it), is produced obliquely towards the hinder margin of the wing. The costal triangle is more or less suffused with rufous in the middle, and on the costa itself are several fine red brown spots ; apical cilia rufous, inner marginal cilia grey.



Posterior wings shining grey, with yellowish grey cilia.

In var. b, the anterior wings are very much paler than in the typical form of the insect, the ground colour being ochreous.

This species is by no means rare, but is generally only taken singly; it is widely distributed, occurring in most parts of Europe. Zeller thinks that it is double-brooded, but I do not feel confident on this point; the larva feeds on sallow, and curls up the end of the leaf so as to form a cone, of which it eats the inner cuticle; these cones are in September and October by no means scarce, and I have several times found the larvæ in them (more frequently they are empty). The perfect insect appears at the end of autumn, and hybernating is again to be met with in spring, when of course it is rather the worse for wear.

Sp. 4. *Stramineella*, n. sp. (Pl. XIV. fig. 9.)

*Alis anticis stramineis, rufo-brunneo irroratis, triangulo costali rufo-brunneo marginato, non dilutiore.*

*Sulphurella*, Wood, Ind. Ent. pl. 51, f. 1623 (non Haw. St.)

In the colour of the anterior wings this comes nearer to *Coriscium sulphurellum* than any other allied species; but its straw yellow, and not sulphur or lemon colour, and the dark margin of a costal triangle, sufficiently distinguish it, independently of the generic difference.

Expansion of the wings  $6\frac{1}{2}$  lines.

Head and face pale straw yellow; palpi the same, the terminal joint externally rufous brown before the apex; antennæ pale yellow, with dark brown annulations; thorax straw colour; abdomen grey brown, beneath whitish; the four anterior legs have the femora and tibiæ dark rufous brown, tarsi yellowish, with the ends of the joints darker: the posterior legs have the tibiæ dirty whitish yellow at the base, and pale reddish brown at the apex, tarsi dirty yellowish, the ends of the joints darker.

Anterior wings pale straw colour, with numerous red brown scattered spots, of which the two most conspicuous form the margins of the usual costal triangle, which is concolorous with the rest of the wing; towards the apex the wing is suffused with reddish; apical cilia straw colour, mixed with reddish, inner marginal cilia grey.

Posterior wings shining grey, with grey cilia.

Of this species, which is totally unknown on the continent, I have two specimens, which were taken in Torwood, Stirlingshire, in September. Mr. Stephens has the specimen that was figured by Wood.

Sp. 5. *Hemidactylella*, W. V. (Pl. XIV. fig. 8.)

Palpis externe brunneo-rufis, apice albido; alis anticis fusco-rufis, triangulo costali dilutiore, costa fusco-punctata.

*Hemidactylella*, W. V. Hüb. Tin. 276; Zeller, Linn. Ent. ii. 326; Ent. Ztg. 1850, S. 160.

*Hemidactylella*, Fabr. 3, 2, 307?

Allied to *Falconipennella*, but smaller, broader winged, the anterior wings redder, and the inner margin unspotted. Some of the varieties of *inconstans* come very near *hemidactylella*, but the broader, shorter anterior wings, and more sharply defined basal margin of the costal spot, sufficiently distinguish the latter species.

Expansion of the wings  $5\frac{1}{2}$  lines.

Head and face rufous ochreous; palpi reddish brown, on the upper side and at the apex whitish; antennæ annulated yellow and reddish brown; thorax reddish brown; abdomen grey, beneath whitish; the femora and tibiæ of the two first pair of legs reddish brown, tarsi reddish brown, with the bases of the joints whitish; posterior legs, apex of the coxæ and base of the femora dirty yellowish white, terminal half of the latter reddish brown, tibiæ and tarsi dirty yellowish grey, the ends of the joints faintly brownish.

Anterior wings dark ochreous, with reddish brown markings, the most conspicuous of which is that which borders the costal triangle towards the base; the costal triangle does not reach beyond the fold of the wing, and is distinctly paler than the rest of the wing, appearing more prominent from the darkness of its margins, that towards the hinder margin being, however, never so dark as that towards the base; a small dark blotch lies along the base of the inner margin; along the costa are several minute dark brown spots; the apical portion of the wing is marbled ochreous and reddish brown, the extreme apex just before the cilia being dark; cilia at the apex reddish ochreous, on the inner margin grey.

Posterior wings shining grey, with yellowish grey cilia.

With us a scarce species; it has been taken in Whittlebury Forest, in September, by Mr. Desvignes; and I am not aware of any other locality in this country. Zeller states that it flies near Vienna in July and September on maple, and Mann found it in Italy in May, also on maple.

Sp. 6. *Falconipennella*, Hübner.

Palpis externè fuscis, apice exalbido; alis anterioribus griseo-brunneis, triangulo costali dilutiore obsoleto, costa dorsoque fusco punctatis.



*Falconipennella*, Hüb. Tin. 317; Tr. ix. 2, S. 203; x. 3, S. 237; Zeller, Linn. Ent. 2, 323.

Nearest allied to *hemidactylella*, but the anterior wings are longer, narrower and darker, and the costal spots are generally more distinct. The inner margin beyond the middle has also some small brown spots, which in *hemidactylella* are entirely wanting.

Expansion of the wings 6—6½ lines.

Head and face greyish brown; palpi on the upper side dirty whitish, the terminal joint reddish brown (in all the three specimens I have before me; Zeller states in the Linn. Ent. that this joint is frequently entirely whitish on the upper side), the apex whitish, externally the palpi are entirely of a red brown, except the apex; antennæ annulated yellowish and red brown; thorax reddish, or greyish brown; abdomen dark grey, beneath white; the two first pair of legs have the femora and tibiæ reddish brown, the tarsi dirty yellowish, with the ends of the joints reddish brown; posterior legs, femora and tibiæ dirty yellowish white at their bases, and dirty brownish at the ends, tarsi dirty yellowish white, with ends of the joints browner.

Anterior wings reddish or grey-brown, darkest from the base to the basal side of the costal triangle; this triangle is hardly perceptibly paler than the rest of the wing, it does not reach beyond the fold of the wing, and has dark margins on both sides; these, however, are not as sharply defined as in *hemidactylella*. The costa itself, from the commencement of the triangle to immediately before the apex, is whitish-yellow, with numerous dark brown spots, and along the inner margin beyond the middle are also some dark brown spots, and in the apical portion of the wing there is generally a brown patch above the anal angle; apical cilia reddish brown, with the ends darker, inner marginal cilia grey.

Posterior wings grey, with yellowish grey cilia.

Scarce in this country; specimens are in the collections of Messrs. Stephens, Shepherd and Bedell.

Zeller says that "it flies in oak, birch, and especially alder woods, from the branches of which it is beaten out. Its proper period of flight is the end of summer and entire autumn. It also occurs in April, but has then usually the appearance of having hibernated. It is nowhere abundant," but occurs in many parts of the Continent.

Sp. 7. *Semifascia*, Haw. (Pl. XIV. fig. 13.)

Palpis fuscis, apice albido; alis anticis rufo-brunneis, macula obliqua albida costali ante medium; tarsis posticis brunneis, albido-maculatis.

*Semifascia*, Haw. L. B. 528, St. Ill. iv. 365.

*Picipennella* (F. v. R.), Zell. Linn. Ent. ii. 328.

Nearest allied to *Falconipennella*, but smaller, the costal triangle strikingly paler on the side next the base of the wing, the side next the apex of the wing being much suffused with, or entirely lost in, the ground colour of the wing; besides, the hinder tarsi are dark brown, with only the bases of the joints dirty whitish.

Expansion of the wings 5—5½ lines.

Head and face greyish-brown or greyish-yellow; palpi pale at the base, the terminal joint brown, except the apex, which is whitish; antennæ pale, with strong dark brown annulations; thorax greyish or reddish brown; abdomen grey, beneath whitish; the four anterior legs have the femora and tibiæ reddish brown, tarsi reddish brown, the bases of the joints whitish; the posterior legs have the femora yellowish at the base, the apical half brown, tibiæ and tarsi dark brown, the bases of the joints whitish.

Anterior wings very variable in colour, reddish brown, with more or less of a violet tint, and frequently much intermixed with yellowish; the darker markings on this ground vary much in distinctness, the most prominent is the dark margin of the costal triangle towards the base of the wing; the costal triangle is towards its hinder margin so much suffused with the ground colour, that it is with difficulty it can be traced, and in some specimens is entirely lost; that portion of the costal triangle which is nearest the base of the wing is pale yellowish, therefore very prominent, and is continued a short distance along the fold of the wing, forming an oblique *semifascia*; the costa beyond the middle is alternately spotted with black and yellowish, and along the inner margin are also several yellowish spots; apical cilia rufous, or reddish brown, inner marginal cilia grey.

Posterior wings shining grey, with grey cilia.

Not scarce in many places; at Whittlebury, at Almondsbury, near Bristol, and at Mickleham, in September and October.

Sp. 8. *Populetorum*, Zeller. (Pl. XIV. fig. 11.)

Alis anticis osseis, vel purpurascentibus, griseo-nebulosis, puncto costali post medium, duobusque distantibus supra plicam nigris.

*Populetorum*, Zell. Isis, 1839, S. 269; Linn. Ent. ii. 330.

The dark-coloured specimens of this insect have some resemblance with *Falconipennella*, but *Populetorum* may always be at once recognized by the distinct black spot beyond the middle of the costa.

Expansion of the wings 6—6½ lines.

Head and face greyish yellow; palpi yellowish, the terminal joint brown, with the apex yellowish; antennæ yellowish, with brown annulations; thorax greyish yellow; abdomen grey, beneath yellowish; the four anterior legs have the femora and tibiæ dark reddish brown, the tarsi shining whitish, at the ends of the joints brown; the posterior legs have the femora yellowish grey, tibiæ and tarsi dirty whitish, the joints of the latter with the ends brownish.

Anterior wings pale yellowish purple (a specimen sent me by Herr Zeller is entirely of dirty bone colour), with some cloudy grey markings, forming the usual costal triangle; behind the hinder margin of this triangle is the conspicuous black spot, and along the costa are various other small blackish spots; a small black spot lies in the fold of the wing, near the apex of the costal triangle, and another larger one lies on the fold, towards the anal angle; apical cilia purplish brown, inner marginal cilia grey.

Posterior wings shining grey, with purplish grey cilia.

A scarce species. I once took it in Birch Wood, September, 17th, 1846. It is also in the collections of Messrs. Stephens, Curtis and Douglas.

Zeller states that "it was several times bred by Fischer von Röslerstamm from larvæ off birches and aspens, and that he himself had taken fine specimens in June and July, almost only in unmixed aspen woods; yet that in April and May he obtained specimens which were wasted, and appeared to have hibernated."

Sp. 9. *Inconstans*, Stainton. (Pl. XIV. figs. 1—7.)

Alis anticis ochraceo-rufis, triangulo costali non dilutiore, brunneo-rufo marginato, nebulis brunneo-rufis apicem versus; femoribus tibiisque quatuor anterioribus brunneo- vel cinereo-rufis, femoribus tibiisque posticis albidis (fig. 1, 2).

*Hemidactyla*, Haw. L. B. 527.

*Hemidactylella*, Stephens, Ill. iv. 367,

Var. b, ut a, sed alis anticis saturatioribus, maculis indistinctioribus (fig. 3).

Var. c, alis anticis ochraceo-rufis, punctis tribus fuscis supra plicam (fig. 4).

*Signipennis*, Haw. L. B. 527.

*Elongella*, Stephens, Ill. iv. 367?

Var. d, alis anticis ochraceo-rufis, punctis numerosis juxta dorsum; striga brunnea apicali supra plicam (fig. 5).

Var. e, ut b, sed costa post medium dilute ochracea (fig. 6).

Var. f, alis anticis saturate brunneo-rufis, costa dorsoque dilute ochraceis (fig. 7).

Var. g, alis anticis rufis, unicoloribus, immaculatis.

The phases of this insect are truly endless; the variety I have taken for my type is by no means unlike *hemidactylella*, but differs essentially in the longer and narrower anterior wings; the dark margin of the costal triangle towards the base is never so sharply defined, and the costal triangle itself is hardly perceptibly paler than the rest of the wing: var. g in appearance exactly resembles the plain varieties of *elongella*, but from this the pale hinder femora and tibiæ sufficiently distinguish it. The average size of this insect is also less than the average size of *elongella*; many of the other varieties of *inconstans* are similar, but in these respects, to the corresponding varieties of *elongella*.

Expansion of the wings  $6\frac{1}{2}$ — $8\frac{1}{2}$  lines.

Head reddish ochreous, face rather paler (in one specimen the face is strikingly paler); palpi reddish ochreous externally, inwardly yellowish; antennæ annulated brown and ochreous; thorax ochreous or rufous, concolorous with the anterior wings; abdomen grey, beneath yellowish white; the femora and tibiæ of the two first pair of legs are reddish brown, tarsi pale yellowish, with the ends of the joints brown; posterior legs, femora and tibiæ pale ochreous, or greyish white, tarsi dirty yellowish, with the ends of the joints darker.

Anterior wings reddish ochreous, varying extremely in intensity of colour, the apex mostly darker; apical cilia reddish ochreous, inner marginal cilia grey. The form and number of the markings on the wings are very variable; in what I have considered as the typical form the markings are reddish brown on a reddish ochreous ground colour, and consist of two oblique blotches extending from the costa to the fold of the wing, and these form the mar-

gins of the trigonal costal mark, which is hardly any paler than the rest of the wing; there are also several scattered reddish brown spots along the costa, and between the fold and the inner margin, and a larger one across the fold towards the anal angle. In var. b the dark markings are less sharply defined, and appear gradually to fade into the less ochreous ground colour. In var. c the dark markings consist only of three very distinct brown spots along the fold, and a few smaller spots along the costa and inner margin. In var. d there is a brown spot on the fold a little before the middle, and another in the middle, from the latter a brown streak extends to the extreme apex of the wing. In var. e, which in other respects resembles var. b, the costa from the commencement of the trigonal mark is pale yellowish. In var. f, the ground colour of the anterior wings is deep reddish brown, with the pale costa of var. e, and also a pale inner margin. In var. g, the anterior wings are unicolorous rufous, with a slight purplish gloss, and entirely unspotted.

Posterior wings shining grey, with greyish, slightly ochreous, cilia.

This insect, the critical examination of which has cost me a great deal of time, has been taken in considerable numbers by Mr. Cooke of Warrington, and it is owing to that gentleman's extreme industry in capturing so many specimens, and to his great liberality in sending me a splendid series of interminable varieties, that I have been able to describe it so fully. I must candidly confess to some still remaining doubts whether it be identical or not with *elongella*. But *elongella*, not a scarce insect on the continent, appears never to have a costal triangle; now in *inconstans* the costal triangle is generally present: the only good distinctive character of the unicolorous specimens is the pale hinder femora.

In this country *inconstans* is widely distributed, occurring, though generally only singly, nearly in every part of England, and in the south of Scotland.

#### Sp. 10. *Elongella*, Linnæus.

“Alis anticis rufis postice purpurascentibus; femoribus tibiisque quatuor anterioribus brunneo- vel cinereo-rufis, coxis posticis apice albidis.”

*Elongella*, L. S. N. 1, 2, p. 890, 385; F. S. 368, 1436; Fab. Ent. Syst. 3, 2, 307; Zell. Lin. Ent. ii. 334.

*Signipennella*, Tr. ix. 2, S. 200; x. 3, S. 297; Dup. xi. 598, pl. 311, f. 11.



Var. b, ut a, sed punctis duobus disci in alis anterioribus supra plicam, fuscis.

*Punctella*, L., S. N. 1, 2, p. 890, 386 ; F. S. 368, 1437.

*Signipennella*, Hüb. Tin. 196.

Var. c, ut b, sed puncto disci tertio fusco apicem versus.

*Signipennella*, Dup. xi. pl. 311, f. 10.

Var. d, ut a, sed punctis alarum anteriorum fuscis multis, potissimum juxta dorsum.

*Roscipennella*, Dup. xi. 596, pl. 311, f. 9.

Var. e, alis anticis dilute ferrugineis, disco violaceo, oblique dissecto.

Var. f, alis anticis violaceis, marginibus ferrugineis, basi ferrugineo-mixta.

“ This species differs from *rufipennella* by its generally much larger size, by the narrower anterior wings, by the grey-red femora and tibiæ, and the want of the pale base of the hinder tibiæ.”

Expansion of the wings  $7\frac{1}{2}$ —9 lines.

“ Head rust-red ; palpi rust-red, inwardly yellowish ; antennæ darker annulated than in *rufipennella* ; thorax rust-red ; abdomen grey, beneath yellowish white ; the four anterior legs have the femora and tibiæ brown-red, or greyish-red, or grey-brownish, sometimes with a purple gloss, tarsi less pure white than in *rufipennella*, on the upper side at the ends of the joints brown ; the posterior legs have the apex of the coxa yellowish white, femora entirely brownish, tibiæ and tarsi dirty whitish, tinted with brownish.”

“ Anterior wings narrow, rust-red of variable intensity, gradually darker towards the apex and with a purple gloss. In one specimen the dark colour and purple gloss extends nearly over the entire wing. The cilia round the apex of the wing are rusty-brown, the ends darker, below and on the costa paler, rusty-yellow, at the anal angle grey.”

“ I consider those specimens typical which have no markings on the wings. Var. b, or the Linnæan *punctella*, has before the middle of the wing, just above the fold, a black brown spot, and at some distance from it, towards the base, another ; between these the ground is paler, whilst in the contrary direction faint darker shades are attached to both spots. Not rarely there are, besides the spots of var. b, brown spots between the fold and the inner margin, and also towards the apex (var. d).”

“ Posterior wings shining grey, with dull grey cilia, the basal half of those next the base of the wing yellowish.”



"In Germany in many localities not scarce; at Vienna, Augsburg, Regensburg (Ratisbon), Berlin, Frankfort, Glogau, Breslau; also in Hungary, Livonia, Sweden and France. It flies principally in the autumn in alder and oakwoods, also singly after hybernation at the end of April."

I have copied the above description from Zeller, for fear of unintentionally making some strange mistake in confusing this species and *inconstans*.

I have two specimens which I am inclined to think are truly identical with the continental *elongella*; one of these is var. d, a variety which I have not yet found in *inconstans*.

Zeller has a *Gracilaria Roscipennella* which he places immediately after *elongella*, and which he considers distinct from the above mentioned var. d; it was only known to him as a single specimen in the collection of Fischer v. R., taken in Switzerland; he describes it thus:\* "Anterior wings pale yellow, with many brownish spots; the apical cilia externally brown; the four anterior tibiæ black-brown;" and he lays most stress upon this last character.

I have not deemed it advisable to enumerate this myself as a distinct species.

Sp. 11. *Rufipennella*, Hübner.

"Alis anticis rufis, postice purpurascens; femoribus tibiisque quatuor anterioribus nigro-fuscis, femorum posticorum basi albida."

*Rufipennella*, Hüb. Tin. 204; Tr. ix. 2, S. 198; x. 3, S. 297; Zeller, Linn. Ent. ii. 331 (non Steph.)

"Smaller than *Stigmatella*, hardly as large as *Franckella*; nearest allied to *elongella*, but differing from it by its smaller size, broader anterior wings, darker femora and tibiæ, and the whitish spot at the base of the hinder tibiæ."

"Expansion of the wings  $5\frac{1}{2}$  lines."

"Head rust-red; face paler; palpi rust-red, inwardly pale yellowish; antennæ faintly annulated yellowish and grey; thorax rust-red; abdomen grey, beneath shining whitish; the four anterior legs have the femora and tibiæ black brown, with a violet gloss, with whitish spots, tarsi shining silvery white, with the ends of the joints brown; the posterior legs have the apex of the

\* Isis, 1839, S. 209; Linn. Ent. ii. 338.

coxæ and the base of the femora whitish, the apex of the femora black-brown, tibiæ and tarsi dirty whitish, on the upper side and the ends of the joints of the tarsi tinted with brownish.

Anterior wings rather short, rust-red, towards the apex darker, and with faint purple gloss. Either there are no further markings, or there are brown spots between the inner margin and the fold of the wing, or there are some spots on the costa. One specimen has only a large spot in the middle of the wing above the fold, and another towards the apex of the wing. Apical cilia paler than the apex, inner marginal cilia grey."

"Posterior wings shining grey, with dull grey cilia."

"The larva has been accurately described by F. v. R., in Treitschke's work. It feeds on *Acer pseudo-platanus* (or *platanoides*), in conically rolled up ends of leaves in June. The perfect insect appears in July. It occurs in Bohemia and in Bavaria."

The above description is copied from Zeller.

This species has not yet been detected in this country, the insect in most British collections under this name is *Zelleria Hepariella*, which has a rough head, *no maxillary palpi*, short thick drooping labial palpi, and much broader posterior wings.

Sp. 12. *Tringipennella* (F. v. R.), Zeller.

*Alis anticis latiusculis albis, dorso posticeque gilvescentibus, punctis fuscis dispersis.*

*Tringipennella*, Zell. Isis, 1839, S. 209; Linn. Ent. ii. 339.

*Fringilella*, Dup. Supp. iv. 303, pl. 75, f. 11.

Readily distinguished from all its allies, except *Limosella*; but this latter is smaller, entirely yellowish, without any white along the costal half of the wing, and the black spots towards the hinder margin are confluent.

Expansion of the anterior wings  $6\frac{1}{2}$  lines.

Head and face pale yellowish grey; palpi whitish grey, the terminal joint brown, with a whitish apex; antennæ pale, with dark brown annulations; thorax yellowish grey; abdomen grey, above and beneath, anal tuft yellowish; the four anterior legs have the femora and tibiæ of a brown-black, the tarsi shining whitish, the ends of the joints faintly brownish; the hind legs have the femora grey-brown, paler at the base, tibiæ and tarsi dirty greyish-white, darker towards the ends of the joints.

Anterior wings whitish, with a slight violet gloss; along the inner and hinder margins yellowish-ochre, with numerous scattered black scales, and two rows of black spots, one just below the costa,

the other on the fold of the wing; apical cilia pale ochreous, inner marginal cilia grey.

Posterior wings broader than usual, and the point less prolonged, shining grey, with yellowish grey cilia.

In some specimens the violet gloss on the anterior wings is entirely wanting.

This species always occurs among grass, and is double-brooded, appearing in May and August. I have taken it plentifully at Lewisham, and on the Sanderstead Downs; and once in Scotland.

Sp. 13. *Limosella* (F. v. R.), Zeller.

*Alis anticis latiusculis osseis, punctis seriatis postice confluentibus, fuscis.*

*Limosella*, Zeller, Linn. Ent. ii. 341; Dup. S. iv. 488 (non pl. 87, f. 11).

Much smaller than *Tringipennella*, the costa not paler than the rest of the wing, the spots less distinct, and towards the hinder margin confluent.

Expansion of the wings 4—4½ lines.

Head and face greyish-yellow; palpi yellowish, the terminal joint with a broad fuscous ring; antennæ yellowish, with brown annulations; thorax greyish yellow; abdomen grey, anal tuft yellowish; the four anterior legs have the femora and tibiæ grey-brown, tarsi whitish, the ends of the joints brown; the posterior legs have the femora grey, tibiæ and tarsi dirty yellowish, the ends of the joints darker.

Anterior wings pale ochreous yellow, with three rows of faint fuscous spots, one along the costa, one above the fold, and one along the inner margin; these become confluent towards the hinder margin, the apex of the wing being almost entirely suffused with fuscous; apical cilia fuscous, inner marginal cilia yellowish grey.

Posterior wings shining grey, with grey cilia.

Not yet detected in this country.

It was first discovered by Herr Mann, in woods near Vienna, in May and June; he afterwards met with it at Leghorn and other places in the North of Italy.

Sp. 14. *Syringella*, Fabricius.

*Alis anticis luteo-brunneis, maculis albidis costæ dorsique, prope basim, subfasciatis.*

*Syringella*, Fabr. Ent. Syst. 3, 2, 328; Steph. Ill. iv. 364; Zell. Linn. Ent. ii. 342; Dup. Sup. iv. 298, pl. 75, f. 6.

*Anastomosis*, Haw. Lep. Brit. 530; Curt. B. E. fol. 479.

*Ardeæpennella*, Tr. ix. 2, S. 205; x. 3, S. 298.

Not closely allied to any known species.

Expansion of the wings 6 lines.

Head and face yellowish, the former with some brown scales on the crown; palpi pale yellowish, the end of the second joint, and the terminal joint, except the apex, brown; antennæ pale, with dark-brown annulations; thorax yellowish, spotted with brown; abdomen grey, beneath whitish, anal tuft yellowish; the four anterior legs have the femora and tibiæ dark-black brown, tarsi pale yellowish, the ends of the joints brown; the hinder legs have the femora pale yellowish, spotted with brown, tibiæ pale dirty-yellowish at the apex, brownish at the base, tarsi dirty-yellowish, with the ends of the joints brownish.

Anterior wings broad, appearing from the cilia, broadest posteriorly. The ground colour is a yellowish-brown, marbled with dark red-brown patches, and with numerous pale-yellowish spots, which are thus disposed; first, near the base a yellowish angulated fascia, which, on the inner margin, is nearer the base than on the costa. Then follows a straight oblique fascia, and beyond it another angulated, which joins the preceding on the inner margin; the third fascia is generally expanded along the costa into a spot, and is sometimes united to the small spot that forms the fourth costal marking; beyond this, towards the apex of the wing, are two yellowish hooks; and in the extreme apex is frequently a small whitish spot, sometimes continued into the cilia; at the commencement of the inner-marginal cilia is a triangular yellow spot on the inner margin; the apical cilia are brownish, then whitish, with the ends brown, inner marginal cilia grey.

Posterior wings not long-pointed, grey, with grey cilia.

The larva at first mines, and afterwards rolls up the leaves of the lilac, and is very common in gardens. It is double-brooded, the perfect insect appearing in May and July.

Sp. 15. *Simploniella* (F. v. R.), Duponchel.

"Alis anticis niveis, fascia prope basim, fascia media postice angulata strigisque 3—4 posticis subconfluentibus luteis, nigro-marginatis."

*Simploniella*, Dup. xi. 471, pl. 305, f. 10; F. v. R. Beitr. pl. 70, f. 3, S. 197.

"This has some resemblance to the *Argyresthiæ*, allied to *Goedartella*; probably the neuration of the wings differs a little from

that of the *Gracilariæ*, already described, and unites it with the following species. Its snow-white colour, with pale yellow markings, readily distinguishes it in this genus."

"Hardly as large as *Gr. Syringella*. Thorax and head, with their adjuncts, pure white, rather shiny. Antennæ dirty-yellowish, faintly annulated with darker towards the base, above more whitish; the long basal joint is white above, brownish-yellow beneath, at the end with a brown spot. Labial palpi rather drooping, filiform, slightly curved. The second joint externally at the apex dark; the third as long as the second, short-pointed. The four anterior legs have the middle of the femora and the base and end of the tibiæ brown; the very unequal spines of the middle tibiæ have the basal half brown.

"Hinder femora dirty white; hinder tibiæ fringed on the back, externally and before the apex yellowish brown. All the tarsi have the ends of the joints brownish-yellow. Abdomen yellowish grey, beneath white.

"Anterior wings rather broad, appearing (owing to the colouring of the cilia) to expand towards the hinder margin, snow-white, with brownish-yellow, almost saffron-yellow markings. At the base of the costa is the black spot. At some distance from it is a perpendicular nearly straight fascia. Almost on the middle of the wing follows an inwardly oblique fascia, the lower half of which expands externally, and, by its prolongation, unites with the next fascia-form line. This lies still more inclined and parallel to another very near and similarly formed, with the lower half of which it sometimes unites. All the above mentioned markings are finely bordered with black. There are besides two yellow hook-shaped transverse-streaks, the colour of which, as well as of the two preceding, is continued into the hinder-marginal cilia. Beyond the apex of the wing is a deep black streak in the white cilia.

"Posterior wings narrow, long pointed, yellowish grey, with paler cilia."

"Several specimens of this insect were taken on the Simplon, in the latter half of July, among white-thorn, willow and birch bushes."

The above description is copied from Zeller. The insect has not yet occurred in this country, nor indeed do I believe it has ever been met with but on the Simplon.

(*To be continued.*)

---